Pace Analytical Services, Inc.
Not NELAP Accredited
4860 Blazer Parkway
Dublin, OH 43017
(614)486-5421

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

October 15, 2015

Ms. Robin Feller
JRM Environmental, Inc.
PO Box 926
Brownsburg, IN 461120926

RE: Project: Duke Ed. Special
Pace Project No.: 50129650

Dear Ms. Feller:
Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Karen Fullmer

Karen Fullmer
karen.fullmer@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: Duke Ed. Special
Pace Project No.: 50129650

Indiana Certification IDs
7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #:E-10177
Kentucky UST Certification #: 0042
Kentucky WW Certification #:98019
Louisiana Certification #: 04076
Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2014-148
Texas Certification #: T104704355-15-9
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-10-00128

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SAMPLE SUMMARY

Project: Duke Ed. Special
Pace Project No.: 50129650

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50129650001	**Field Blank**	Water	10/08/15 14:55	10/09/15 15:27
50129650002	**Filter Water**	Water	10/08/15 15:00	10/09/15 15:27
50129650003	**Gray Water Out**	Water	10/08/15 15:05	10/09/15 15:27
50129650004	**Gray Water Influent**	Water	10/08/15 15:10	10/09/15 15:27

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Duke Ed. Special
Pace Project No.: 50129650

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50129650001	**Field Blank**	EPA 1631E	WJW	1
50129650002	**Filter Water**	EPA 1631E	WJW	1
50129650003	**Gray Water Out**	EPA 1631E	WJW	1
50129650004	**Gray Water Influent**	EPA 1631E	WJW	1

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ANALYTICAL RESULTS

Project: Duke Ed. Special
Pace Project No.: 50129650

Sample: Field Blank **Lab ID: 50129650001** Collected: 10/08/15 14:55 Received: 10/09/15 15:27 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E		Preparation Method: EPA 1631E					
Mercury	ND	ng/L	0.50	1	10/11/15 08:00	10/12/15 09:24	7439-97-6	

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ANALYTICAL RESULTS

Project: Duke Ed. Special
Pace Project No.: 50129650

Sample: Filter Water **Lab ID: 50129650002** Collected: 10/08/15 15:00 Received: 10/09/15 15:27 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E		Preparation Method: EPA 1631E					
Mercury	ND	ng/L	0.50	1	10/11/15 08:00	10/12/15 10:18	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Duke Ed. Special
Pace Project No.: 50129650

Sample: Gray Water Out **Lab ID: 50129650003** Collected: 10/08/15 15:05 Received: 10/09/15 15:27 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E		Preparation Method: EPA 1631E					
Mercury	**5.79**	ng/L	0.50	1	10/11/15 08:00	10/12/15 10:57	7439-97-6	

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ANALYTICAL RESULTS

Project: Duke Ed. Special
Pace Project No.: 50129650

Sample: Gray Water Influent **Lab ID: 50129650004** Collected: 10/08/15 15:10 Received: 10/09/15 15:27 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1631E Mercury, Low Level	Analytical Method: EPA 1631E		Preparation Method: EPA 1631E					
Mercury	**11.8**	ng/L	2.5	1	10/11/15 08:00	10/12/15 11:20	7439-97-6	

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QUALITY CONTROL DATA

Project: Duke Ed. Special
Pace Project No.: 50129650

QC Batch: CVFS/1142 Analysis Method: EPA 1631E
QC Batch Method: EPA 1631E Analysis Description: 1631E Mercury
Associated Lab Samples: 50129650001, 50129650002, 50129650003, 50129650004

METHOD BLANK: 1400206 Matrix: Water
Associated Lab Samples: 50129650001, 50129650002, 50129650003, 50129650004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	10/12/15 09:39	

METHOD BLANK: 1400207 Matrix: Water
Associated Lab Samples: 50129650001, 50129650002, 50129650003, 50129650004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	10/12/15 10:41	

METHOD BLANK: 1400208 Matrix: Water
Associated Lab Samples: 50129650001, 50129650002, 50129650003, 50129650004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	10/12/15 11:35	

METHOD BLANK: 1400220 Matrix: Water
Associated Lab Samples: 50129650001, 50129650002, 50129650003, 50129650004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	ND	0.50	10/12/15 14:20	

LABORATORY CONTROL SAMPLE: 1400209

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ng/L	5	5.17	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400210 1400211

Parameter	Units	50129648002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	0.530	2.5	2.5	3.05	3.06	101	101	71-125	0	24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Duke Ed. Special
Pace Project No.: 50129650

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400218 1400219

Parameter	Units	50129649004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ng/L	0.830	2.5	2.5	3.19	3.40	94	103	71-125	6	24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Duke Ed. Special
Pace Project No.: 50129650

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Duke Ed. Special
Pace Project No.: 50129650

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50129650001	**Field Blank**	EPA 1631E	CVFS/1142	EPA 1631E	CVFS/1143
50129650002	**Filter Water**	EPA 1631E	CVFS/1142	EPA 1631E	CVFS/1143
50129650003	**Gray Water Out**	EPA 1631E	CVFS/1142	EPA 1631E	CVFS/1143
50129650004	**Gray Water Influent**	EPA 1631E	CVFS/1142	EPA 1631E	CVFS/1143

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

5012965OKD

Page: of 1803364

Section A Required Client Information:

Company: JRM Env
Address: Brownsburg
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: JRM Environmental
Copy To:
Purchase Order No.:
Project Name: Duke Ed. Special
Project Number:

Section C Invoice Information:

Attention: Robin Feller
Company Name: JRM Env
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☒ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) [Analysis Test]	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Field Blank	—	—			10/8/15	2:55		1	X								1631 Hg		001
2	Filter Water		G				3:00		1	X								X		002
3	Gray Water Out		G				3:05		1	X								X		003
4	Gray Water Influent		G			↓	3:10		1	X								X		004
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Laura Hoskins	10/8/15	15:32	PACE	10/9/15	1527	24.1	N	N	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Robin Feller & Laura Hoskins
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt

Pace Analytical

Client Name: JRM Project # 5012965o

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Date/Time 5035A kits placed in freezer: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other _____

Thermometer 1 2 3 4 5 6 A B C D E F Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature (Corrected, if applicable) 24.1°c Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 10/9/15 SJ

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	5.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	6.
Containers Intact:	☒Yes ☐No ☐N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	☒Yes ☐No ☐N/A	8.
All containers needing acid/base pres. have been checked? exceptions: VOA, coliform, TOC, O&G	☐Yes ☐No ☒N/A	9. (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc
All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.		
Residual Chlorine Check (SVOC 625 Pest/PCB 608)		10. Present Absent
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	11.
Headspace TCLP Volatiles	☐Yes ☐No	12
Headspace Wisconsin Sulfide / Acidity	☐Yes ☐No	13
Trip Blank Present:	☐Yes ☒No ☐N/A	14
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Project Manager Review		
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	15.
Sufficient Volume:	☒Yes ☐No ☐N/A	16.
Correct Containers Used:	☒Yes ☐No ☐N/A	17.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: CBS **Date:** 10-9-15

Form F-IN-Q-290-rev.07, 11May2015

Sample Container Count

CLIENT: JRM

COC PAGE 1 of 1
COC ID# 180336 4

Project # 50129650

Sample Line Item	DG9H	AG1U	WGFU	AG0U	R	4 / 6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SP5T	AG2U	pH <2	pH >9	pH>12
1																		1			
2																		↓			
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Container Codes

DG9H	40mL HCL amber voa vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber glass	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	SP5T	120mL Coliform Na Thiosulfate
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber glass	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear glass	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag